The Lepidopterological Society of Japan

蝶と蛾 *Tyô to Ga*, **42** (2) : 115－141, 1991

A Revision of the Japanese Species of the Genus *Lobesia* GUENÉE (Lepidoptera, Tortricidae), with Description of a New Subgenus

Yang-Seop BAE
Entomological Laboratory, College of Agriculture, University of Osaka Prefecture, Sakai, Osaka 591, Japan

and

Furumi KOMAI
Environmental Planning Department, Osaka University of Arts, Kanan-cho, Osaka 585, Japan

Abstract The Japanese species of the genus *Lobesia* are revised. The monophyly of the genus is supported by the possession of four autapomorphies. Eight species occurring in Japan are classified in two subgenera : seven species belonging to *Lobesia* and one to *Neolobesia* nov. Three new species, *Lobesia* (*Lobesia*) *arguta*, *L.* (*L.*) *virulenta*, *L.* (*L.*) *yasudai*, are described. *Lobesia* (*L.*) *bicinctana* (DUPONCHEL) is newly recorded from Japan. Adults, wing venation, and genitalia of both sexes are illustrated. Host plants are listed. Keys are provided for all the known subgenera and the Japanese species.

Key words Tortricidae, Olethreutinae, *Lobesia, Neolobesia*, Japanese species.

Introduction

The moths of the tortricid genus *Lobesia* are so uniform in the coloring and markings of the forewings that they are often very difficult to separate on the external characters. The genus contains more than one hundred already described species, which are mainly distributed in the Holarctic and the Indo-Australian Regions. Five species have hitherto been known to occur in Japan: *botrana* ([DENIS & SCHIFFERMÜLLER]), *reliquana* (HÜBNER), *aeolopa* MEYRICK, *mieae* KAWABE, *coccophaga* FALKOVITSH (KAWABE, 1982). No revisional study of the Japanese *Lobesia* has been proposed up to the present.

In the present paper eight Japanese species[1)] are dealt with; seven belong to the subgenus *Lobesia* and one to the subgenus *Neolobesia*, which is here proposed for *L. coccophaga* FALKOVITSH. Of these species, three are described as new and one is recorded from Japan for the first time.

[1)]We omitted *L. botrana* ([DENIS & SCHIFFERMÜLLER]) from the Japanese fauna, though it was recorded by MATSUMURA (1931). No voucher specimens have been found in the collection of the Entomological Institute, Hokkaido University, and it seems likely that the record was due to a misidentification.

NII-Electronic Library Service

The Lepidopterological Society of Japan

A total of over six hundred specimens has been examined in this study. Most of the material is preserved in the collection of the Entomological Laboratory, University of Osaka Prefecture, and some valuable specimens are gift or loan from individuals listed below. The holotypes designated here are deposited in the collection of the Entomological Laboratory, University of Osaka Prefecture, Sakai.

We would like to express our cordial thanks to Prof. T. YASUDA of the University of Osaka Prefecture for his guidance and suggestions during the research. We are especially obliged to Prof. S. MORIUTI and Dr. T. HIROWATARI of the University of Osaka Prefecture, and Prof. T. KUMATA of Hokkaido University for their helpful suggestions. For the generous gift or loan of material, our cordial thanks are due to Dr. S. AOKI, Rissho University; Dr. Y. ARITA, Meijo University; Mr. K. FUJISAWA, Nagano; Mr. H. FUKUDA, Tottori; Dr. M. ISHII, University of Osaka Prefecture; Dr. K. KAMIJO, Hokkaido Forest Experiment Station; Mr. A. KAWABE, Chiba; Mr. Y. NASU, Osaka Plant Protection Office; Dr. T. OKU, Fruit Tree Research Station; Dr. R. SATO, Niigata; Mr. S. SUZUKI, Hokkaido Forest Experiment Station; Mr. S. YAMAZAKI, Forestry and Forest Products Research Institute. Y. S. BAE is obliged to the Japan Shipbuilding Industry Foundation Society for a grant; F. KOMAI is grateful to Tsukamoto-Gakuin Institute for a grant.

Genus *Lobesia* GUENÉE

Small in size; wing expanse : 9 – 15 mm.

Head clothed with loosely appressed scales at vertex; face smooth. Antenna filiform, about 0.5 times the length of forewing. Labial palpus ascending; second segment densely clothed with long scales beneath.

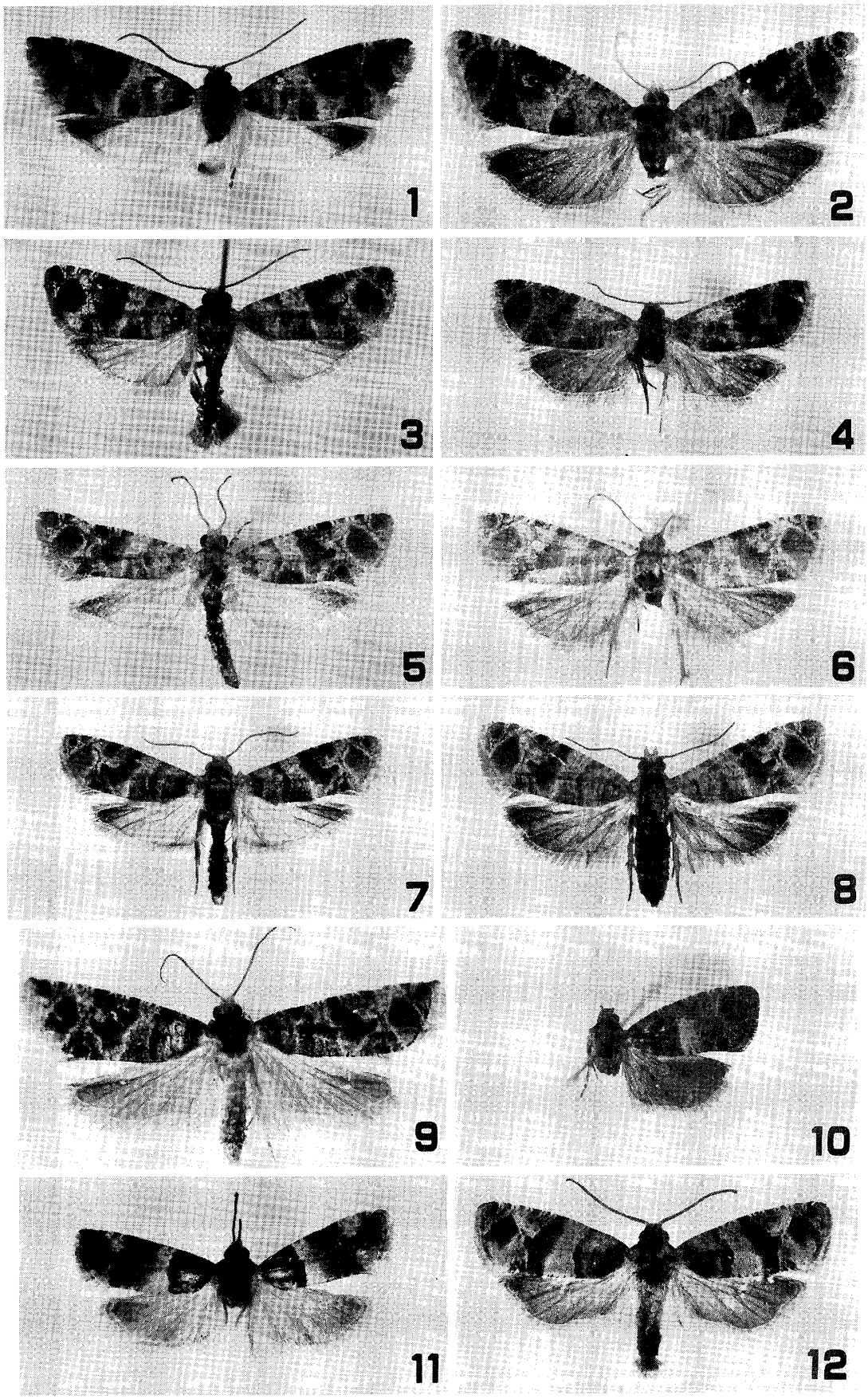
Thorax with a posterior crest. Hind tibia in male with hair pencil on inside of its proximal end (Fig. 19) or sometimes hair pencil lost (see the description of abdomen below).

Abdomen in male with a pair of elongate pouches situated in each side of 2nd abdominal sternite (Fig. 15). The pouches opening to outside by a slit, containing numerous oval scales (Figs. 15 – 17) or hair-like scales. This structure probably serves as a scent organ in combination with tibial hair pencil described above; the hair pencils are supposed to have the function of distribution of a scent substance secreted in the pouches. The abdominal pouches are occasionally lost. A correlation is observed between the degree of the development of tibial hair pencil and that of the abdominal pouches (FALKOVITSH, 1962 : 881, table 2). Second abdominal sternite triangular in male (Fig. 15 : S II), the vertex reaching the following sternite; in female it is of the normal tortricid type.

Figs. 1 – 12. Adults. 1. *Lobesia (Lobesia) reliquana* (HÜBNER), male. 2. *Ditto*, female. 3. *L. (L.) virulenta* sp. nov., male. 4. *Ditto*, female. 5. *L. (L.) yasudai* sp. nov., male. 6. *Ditto,* female. 7. *L. (L.) aeolopa* MEYRICK, male. 8. *Ditto*, female. 9. *L. (L.) arguta* sp. nov., male. 10. *L. (L.) mieae* KAWABE, male. 11. *L. (L.) bicinctana* (DUPONCHEL), male. 12. *L. (Neolobesia) coccophaga* FALKOVITSH, male.

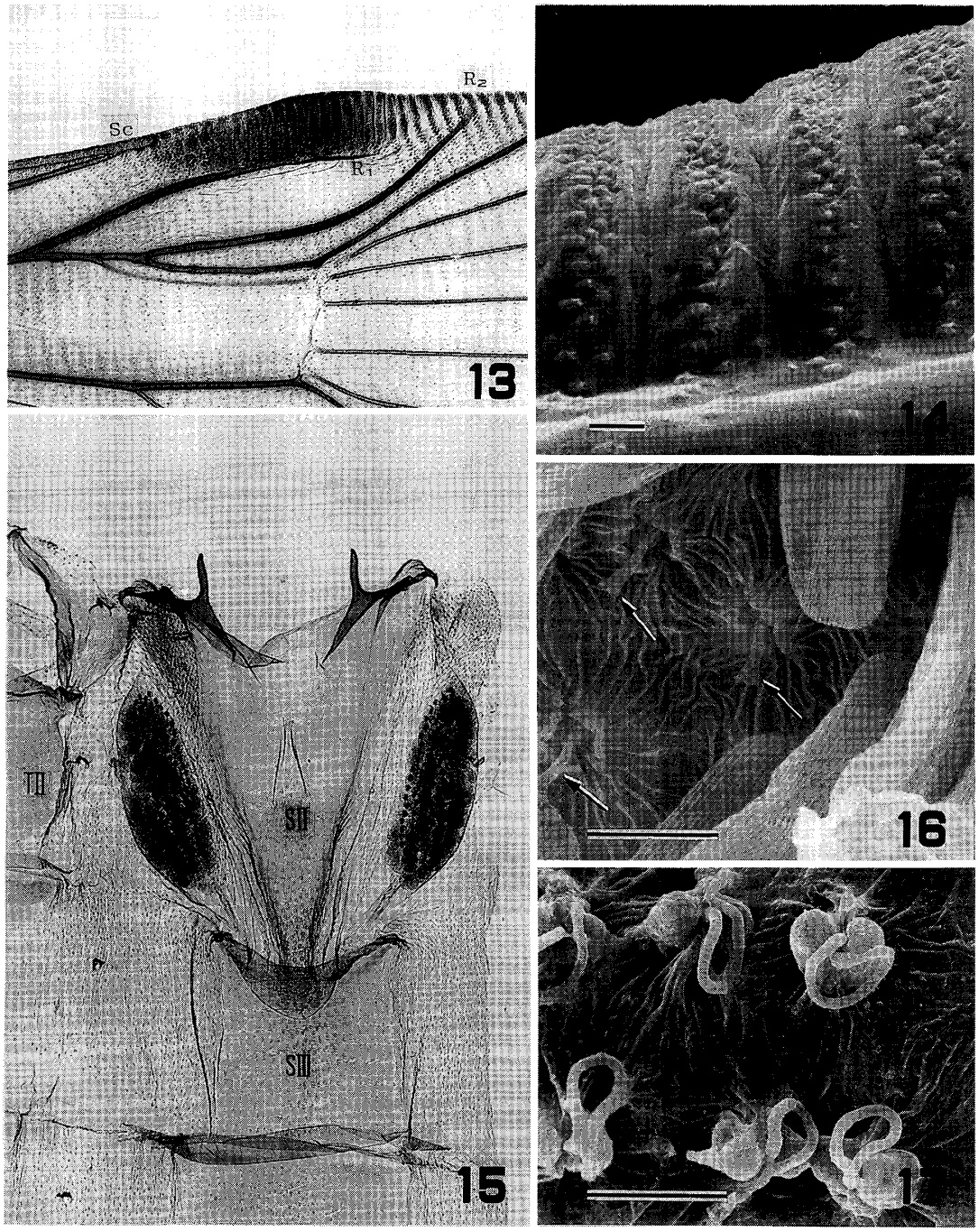
NII-Electronic Library Service

The Lepidopterological Society of Japan



NII-Electronic Library Service

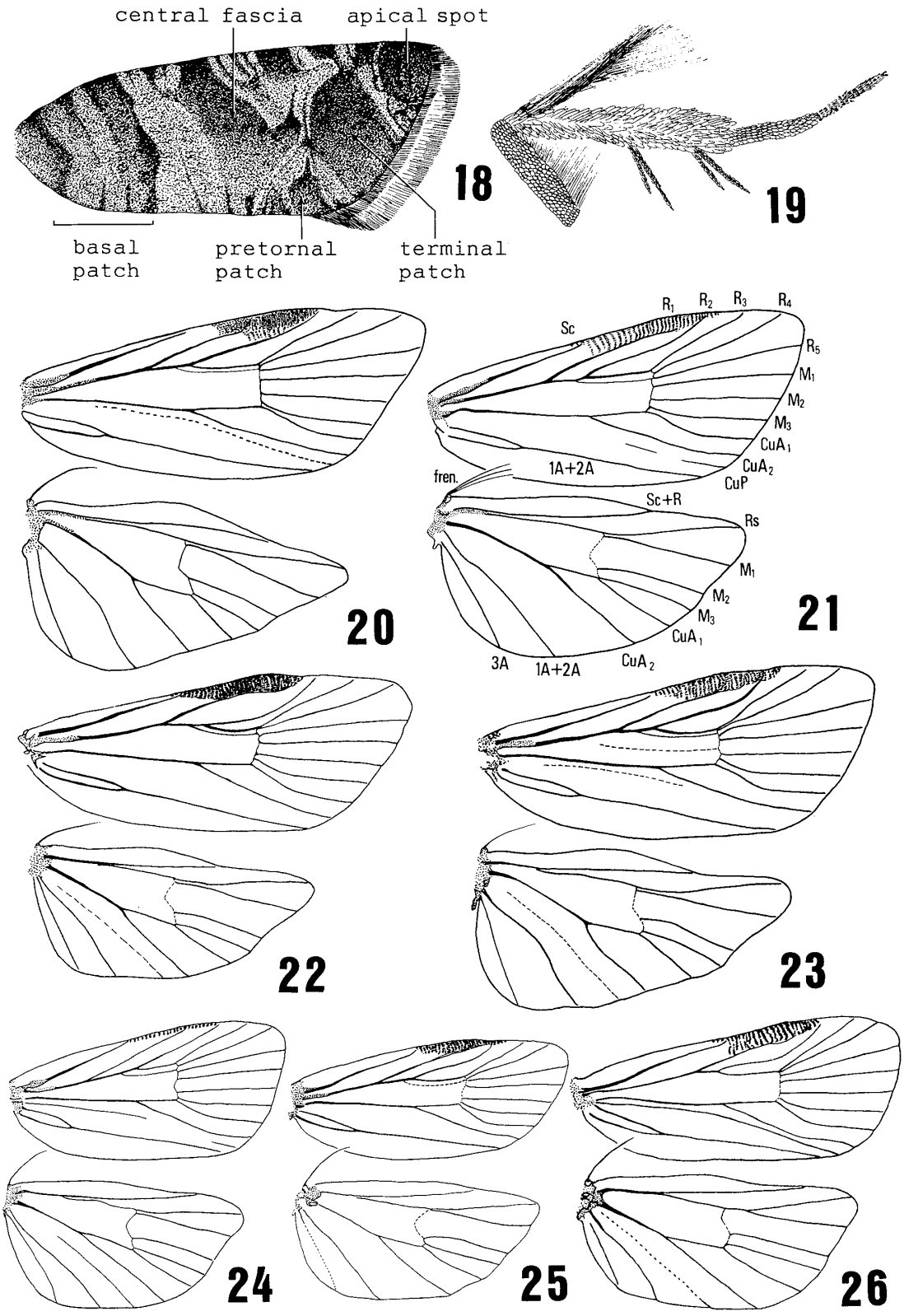
The Lepidopterological Society of Japan



Figs. 13－17. Wing and abdominal structures. 13. Pterostigma of *Lobesia (Lobesia) virulenta* sp. nov., male. 14. Pterostigma of *L. (L.) aeolopa* MEYRICK, male (scale : 0.02 mm). 15. Abdominal pouches on the second abdominal sternite of *L. (L.) aeolopa*, unrolled preparation of male abdomen (SII : second sternite; SIII : third sternite; TII : second tergite). 16. *Ditto*, detail of internal wall of pouch (arrows indicate scales in the pouch, upper two broken in pedical) (scale : 0.02 mm). 17. *Ditto*, detail of basement membrane of pouch, swollen structures (scent glands ?) corresponding to blackish granules in abdominal pouches shown in Fig. 15 (scale : 0.02 mm).

NII-Electronic Library Service

The Lepidopterological Society of Japan



Figs. 18 – 26. Wings and hindleg. 18. Diagram of forewing markings of *Lobesia*. 19. Hindleg of *L. (L.) aeolopa* MEYRICK, male. 20. *L. (L.) reliquana* (HÜBNER), male. 21. *Ditto*, female. 22. *L. (L.) virulenta* sp. nov., male. 23. *L. (L.) aeolopa* MEYRICK, male. 24. *L. (L.) mieae* KAWABE, male. 25. *L. (L.) bicinctana* (DUPONCHEL), male. 26. *L. (Neolobesia) coccophaga* FALKOVITSH, male.

NII-Electronic Library Service

The Lepidopterological Society of Japan

Forewing (Figs. 13, 14, 20 – 26) smooth, with pterostigma indicated by a patch of corrugated wing membrane between Sc and R_2 (Figs. 13, 14), it well defined (Figs. 20 – 23, 25, 26) or ill-defined (Fig. 24); costal fold in male absent; R_1 from just before middle; R_2 from 1/2 to 2/3; R_1 and R_2 sinuate (Figs. 20 – 23, 26) or straight (Fig. 24), these two veins not reaching costa (Fig. 13); R_3, R_4 and R_5 approximated at base; R_4 to costa; R_5 to termen; chorda running from upper margin of cell between R_1 and R_2 to posterior margin between R_4 and R_5 (Figs. 20 – 25) or chorda absent in *coccophaga* (Fig. 26); CuA_2 from about 3/4. Forewing ground color usually white ochreous to ochreous, with darker complicated markings (Fig. 18).

Hindwing (Figs. 20 – 26) typical for the family, *i. e.* subtrapezoidal or semiovate, or sexually dimorphic in some species, *e. g. reliquana* and its allied species : in female hindwing of ordinarily subtrapezoidal type (Fig. 21); in male it distinctly narrower than that in female, with a more acute apex and with almost straight (Fig. 20) or even concave termen. Rs and M_1 closely approximated toward base, or occasionally stalked (*coccophaga* as shown in Fig. 26); M_2 parallel to M_3; M_3 and CuA_1 closely approximated at base or stalked; CuA_2 from 1/2 to 2/3; CuP present or absent.

Male genitalia (Figs. 27 – 38). Tegumen weak; pedunculus with an acute process (apodeme of tergal flexor of valva (m4), see KUZNETSOV and STEKOLNIKOV, 1977 : 82) in anterior edge; uncus vestigial or absent; socius distinct (Figs. 27 – 31, 34), clothed with modified scales, or socius absent (Figs. 32, 33); gnathos usually a weak transverse band. Aedeagus usually of a slender tube, sometimes armed with some minute dents on its outer surface (Figs. 35 – 38); cornuti usually absent. Valva slender; sacculus with a scalloped edge or simple, usually separated from cucullus by an incision; spine clusters Spc_1 and Spc_2 present, these separated or rarely united to form a single cluster of spines.

Female genitalia (Figs. 39 – 46). Sterigma variously formed : *e. g.* pear-shaped (Figs. 39 – 42), tubular (Figs. 43 – 45) or circular (Fig. 46), and situated on membranous pocket under 7th abdominal sternite. In the subgenus *Lobesia*, posterior edge of seventh sternite sclerotized, forming straight or convex median band with lateral lobes (Figs. 39 – 45); this structure is called "limen" (DIAKONOFF : 1954). Signum flat or absent.

Remarks. The monophyly of the genus is supported by the following four autapomorphies :

1) Forewing with pterostigma. This specialization occurs uniquely within the Olethreutinae.

2) Presence of scent organ formed by combination of abdominal pouches and tibial hair pencils in male. This structure is unique within the Olethreutinae (FALKOVITSH, 1962 : 881).

3) Pedunculus with an acute process in its anterior edge. A similar structure also appears in *Ancylis* HÜBNER and its allied genera in the Olethreutinae (see RAZOWSKI, 1989 : 267 – 268). We have no evidence to show positively that this resemblance is due to synapomorphy.

4) Sterigma situated on membranous pocket under 7th abdominal sternite. A

NII-Electronic Library Service

The Lepidopterological Society of Japan

similar formation also appears in the subtribe Gatesclarkeanina (*Ukamenia* OKU, *Hiroshiinouea* KAWABE, *Gatesclarkeana* DIAKONOFF) in the Olethreutinae (see RAZOWSKI, 1989 : 282). It seems most probable that this resemblance is due to convergence.

Lobesia is subdivided into eight subgenera as follows :

Key to the subgenera of *Lobesia*

1. Cucullus almost exclusively bristled along dorsal margin; aedeagus with a pair of distal processes on its dorsal wall (Fig. 34) (Japan; Primorsk) ……*Neolobesia* nov.
– Cucullus not thus (it wholly bristled or bristled along its ventral edge); aedeagus without such processes ……2
2. Sacculus with two row of spine clusters transversely extended (South Africa; Madagascar) ……*Harmosma** DIAKONOFF, 1963
– Sacculus without such spine clusters ……3
3. Aedeagus robust; socius a large flap (Australia; New Guinea) ……
……*Lomaschizodes** DIAKONOFF, 1954
– Aedeagus slender; socius a small flap ……4
4. Gnathos with one or two median processes ……5
– Gnathos simple ……6
5. Gnathos with a long median sclerotized process (Uganda) ……
……*Apolobesia** DIAKONOFF, 1954
– Gnathos with two rising verrucose or spinose processes (Java; India; Australia)
……*Lomaschiza** LOWER, 1901
6. Sacculus with three spine clusters (Spc_1 and Spc_3 on ventral edge of sacculus separated by an incision, Spc_2 along basal opening) (North America; Europe)……
……*Endopiza** CLEMENS, 1860
– Sacculus with one or two spine clusters ……7
7. Sacculus on ventral margin with a deep incision separating two spine clusters (Spc_1 and Spc_2) (North America; Europe) ……*Lobesiodes** DIAKONOFF, 1954
– Sacculus without incision separating Spc_1 and Spc_2 (Figs. 27 – 33) (Palearctic Region; South Asia; Australia) ……*Lobesia* GUENÉE, 1845

Subgenus *Lobesia* GUENÉE

Lobesia GUENÉE, 1845 : 297. Type-species : *Asthenia reliquana* HÜBNER, 1825 = *Tortrix permixtana* HÜBNER, [1776 – 1799] (nec [DENIS & SCHIFFERMÜLLER], 1775), by subsequent designation (DESMAREST 1857 : 224).

Polychrosis RAGONOT, 1894 : 209. Type-species : *Phalaena Tortrix botrana* [DENIS & SCHIFFERMÜLLER], 1775.

Byrsoptera LOWER, 1901 : 77. Type-species : *Byrsoptera xylistis* LOWER, 1901.

Remarks : The subgenus may be separated from other members of the genus by the presence of the limen in female genitalia and the presence of a single (rarely two or three) long spine located at the base of the cucullus in the male genitalia (this

*The subgenera marked with an asterisk do not occur in Japan.

NII-Electronic Library Service

The Lepidopterological Society of Japan

character absent in some species). The former female character is probably an autapomorphy for the subgenus.

Key to the Japanese species of the subgenus *Lobesia*

—— Male ——

1. Head pale ochreous; forewing with basal patch ochreous ····· 2
– Head light tawny; forewing with basal patch dark brown ····· 6
2. Hindwing not semi-pellucid (Fig. 9); aedeagus with a group of minute dents on distal half of its left wall (Fig. 36) ····· *arguta* sp. nov.
– Hindwing semi-pellucid (Figs. 1, 3, 5, 7); aedeagus not thus ····· 3
3. Hindwing white, suffused with dark grayish brown apically (Fig. 1); aedeagus with a series of dents on its dorsal wall (Fig. 35) ····· *reliquana* (HÜBNER)
– Hindwing pale gray, becoming darker apically; aedeagus not thus ····· 4
4. Hindwing triangular (Figs. 7, 23); aedeagus larger than caulis; cucullus clavate (Fig. 31) ····· *aeolopa* MEYRICK
– Hindwing semi-ovate (Figs. 3, 5, 22); aedeagus shorter than caulis; cucullus not clavate (Figs. 29, 30) ····· 5
5. Aedeagus gently curved, with a group of extremely minute dents on proximal half of its left wall (Figs. 29, 37) ····· *virulenta* sp. nov.
– Aedeagus strongly curved proximally and almost straight distally, with a dent near apex on its left wall (Figs. 30, 38) ····· *yasudai* sp. nov.
6. Ground color grayish brown, overlaid with plumbeous; central fascia yellowish orange (Fig. 10) ····· *mieae* KAWABE
– Ground color pale ochreous; central fascia ochreous (Fig. 11) ····· *bicinctana* (DUPONCHEL)

—— Female ——

1. Head pale ochreous; forewing with basal patch ochreous ····· 2
– Head light tawny; forewing with basal patch brown ····· 6
2. Corpus bursae emarginated at base (Figs. 40, 43) ····· 3
– Corpus bursae not thus ····· 4
3. Sterigma pear-shaped (Fig. 40) ····· *arguta* sp. nov.
– Sterigma tubular, tapering posteriorly (Fig. 43) ····· *aeolopa* MEYRICK
4. Corpus bursae rounded, with an arrowhead-shaped signum ····· 5
– Corpus bursae ellipsoidal, with a rhomboid signum (Fig. 39) ··· *reliquana* (HÜBNER)
5. Ductus bursae with a narrow part embraced by sterigma, the part being narrower than width of lateral lobe of limen (Fig. 41) ····· *virulenta* sp. nov.
– Ductus bursae with a broad part embraced by sterigma, the part being broader than width of lateral lobe of limen (Fig. 42) ····· *yasudai* sp. nov.
6. Ground color grayish brown, overlaid with plumbeous; central fascia yellowish orange (Fig. 10) ····· *mieae* KAWABE
– Ground color pale ochreous; central fascia ochreous (Fig. 11) ····· *bicinctana* (DUPONCHEL)

NII-Electronic Library Service

The Lepidopterological Society of Japan

Lobesia (*Lobesia*) *reliquana* (HÜBNER)
(Figs. 1, 2, 20, 21, 27, 35, 39)

Tortrix permixtana HÜBNER, [1776－1799] : pl. 12, fig. 75; HAWORTH, 1811 : 406 (nec [DENIS & SCHIFFERMÜLLER], 1775).
Asthenia reliquana HÜBNER, 1825 : 381.
Tortrix leucopterana FRÖLICH, 1828 : 65.
Cochylis fischerana TREITSCHKE, 1835 : 145.
Lobesia reliquana : GUENÉE, 1845 : 297; PIERCE & METCALFE, 1922 : 39, pl. 14; DIAKONOFF, 1950 : 292－293, pl. 3, fig. 1; SWATSCHEK, 1958 : 195, fig. 220; OKANO, 1959 : 261, pl. 175, fig. 14; LIU & BAI, 1977 : 75, pl. 8, fig. 17, pl. 16, fig. 128, pl. 23. fig. 128; BRADLEY *et al.*, 1979 : 67－69, pl. 26, figs. 21, 22; KAWABE, 1982 : **1** : 113, **2** : 22, 172, pl. 25, fig. 9.
Lobesia permixtana : MEYRICK, 1895 : 455; BARRET, 1906 : 248; KENNEL, 1916 : 462, pl. 18, fig. 59; FORD, 1949 : 76; ISSIKI, 1957 : 67, pl. 10, fig. 318; PARK, 1983a : 42, pl. 1, fig. 45; 1983b : 715, fig. 379.
Lobesia (Lobesia) reliquana : OBRAZTSOV, 1953 : 91, figs. 1, 3; DIAKONOFF, 1954 : 40, pl. 3, fig. 6; HANNEMANN, 1961 : 199, fig. 410, pl. 17, fig. 4; KUZNETSOV, 1978 : 452, fig. 392－5.

Wing expanse : 12－14 mm.

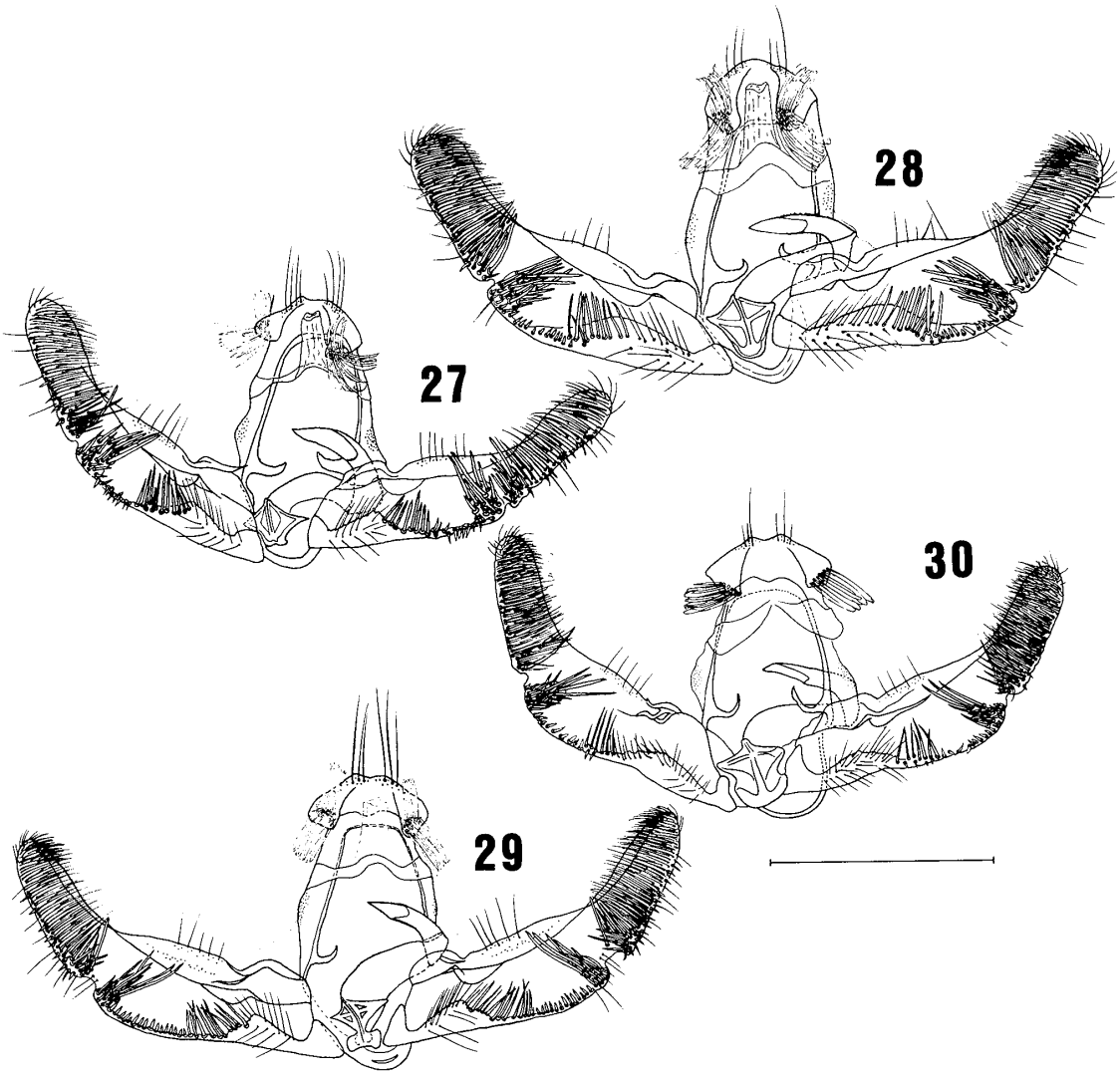
♂ (Figs. 1, 20). Head pale ochreous; vertex with tuft mixed with pale brown. Antenna pale yellowish brown, annulated with light brown. Labial palpus white ochreous; median segment finely irrorated with dark brown outwardly. Thorax light yellowish brown, mixed with dark brown. Hindleg with pale ochreous tibial hair pencil 0.8 times as long as tibia. Abdomen dark grayish fuscous. Abdominal pouch large, 1.3 times the length of second abdominal tergite, with dense pale ochreous scales. Forewing with well defined pterostigma (Fig. 20); ground color white ochreous, overlaid with plumbeous; markings pale yellowish ochreous, mixed with dark grayish brown; basal patch sprinkled with plumbeous and strigulated with black, angulated in outer edge; central fascia narrow, rather oblique, subtriangular, inner edge nearly straight, outer edge angulated in middle, the upper half irregularly suffused with blackish gray; space between basal patch and central fascia with a blackish gray suffusion on lower half; pretornal patch subtriangular or semicircular, tinged with black; terminal patch large, rounded, the top narrowly extending to costa; apical spot elongate, dark ochreous; cilia light ochreous, with a dark fuscous subbasal line, above apex tinged with dark brown and on tornus grayish. Hindwing triangular, apex rather acute, termen tolerably straight; white, semi-pellucid, suffused with dark grayish brown apically; cilia white, with a white subbasal line, except that around apex they are suffused with grayish fuscous.

♀ (Figs. 2, 21). Forewing similar to that of male, but pterostigma weaker than in male (Fig. 21). Hindwing elongate-semiovate, apex less pointed; grayish brown, becoming darker apically; cilia light gray, with a grayish subbasal line.

Male genitalia (Figs. 27, 35). Tegumen clothed laterally with a cluster of long, filiform scales (these not drawn in Fig. 27 except for sockets); socius distinct, with a group of modified scales; gnathos membranous, relatively narrow. Valva narrow; cucullus slender, rounded apically; sacculus narrow, weakly sclerotized; Spc_1 consisting of about 30－40 differently sized spines; Spc_2 of a row of 14－16 spines; a series of

NII-Electronic Library Service

The Lepidopterological Society of Japan



Figs. 27–30. Male genitalia, caudal view (scale: 0.5 mm). 27. *Lobesia (Lobesia) reliquana* (HÜBNER). 28. *L. (L.) arguta* sp. nov. 29. *L. (L.) virulenta* sp. nov. 30. *L. (L.) yasudai* sp. nov.

small spines present between Spc_1 and Spc_2. Aedeagus short, curved and tapering distally, with a series of serrate dents on its dorsal wall (Fig. 35).

Female genitalia (Fig. 39). Limen of a wide convex median band, with a subtriangular lobe on each side. Sterigma pear-shaped, aciculate, concaved anteriorly, abruptly tapering posteriorly. Corpus bursae large, ellipsoidal, with a rhomboid signum.

Material examined. HOKKAIDO: NEMURO: Nemuro, 1 ♀, 4. VII. KAMIKAWA: Shirogane Spa, 1 ♀, 7. VII; Mt. Daisetuzan, 2 ♀, 18. VII, 1 ♂, 25. VII. SORACHI: Bibai, 1♀, 10. VI. ISHIKARI: Sapporo, 1♀, 10. VI; Teine, 1♂, 13. VI. SHIRIBESHI: Zenibako, 1 ♂, 18. VI. HONSHU: AOMORI: Mutsushi, 2 ♂, 30. V. IWATE: Mt. Iwatesan, 2 ♂, 1 ♀, 19. V, 1 ♂, 29. V; Tsunagi, 1 ♀, 29. V; Mt. Sotoyama, 1 ♀, 14. VII. NAGANO: Utsukushigahara, 1 ♂, 17. V; Shigakogen, 3 ♂, 1 ♀, 14. VI; Tobira, 1 ♀, 17. VI; Shimoina, Hurakage, 1 ♂, 3. VI. GIFU: Hikagedaira, 1 ♂, 1–4. VI. OSAKA: Mt.

NII-Electronic Library Service

The Lepidopterological Society of Japan

Kongosan, 1 ♀, 17. V. HIROSHIMA: Sandankyo, 1 ♀, 4. VI. SHIKOKU: EHIME: Mt. Ishizuchisan, 1 ♀, 12. VI. TOKUSHIMA: Mt. Tsurugisan, 1 ♀, 24. V; Minocho, 1 ♀, 27. IV.

Distribution. Japan (Hokkaido, Honshu, Shikoku), Korea, Primorsk, China, Siberia, Europe, Asia Minor and northern Iran.

Flight period. June to July (Hokkaido); May to July (Tohoku district of Honshu); May to June (Chubu and Kinki districts of Honshu); April to June (Shikoku). Univolutine.

Host plants. Unknown in Japan. Europe; "*Solidago* (Compositae); *Anchusa officinalis* LINN. (Boraginaceae); *Betula* (Betulaceae); *Fagus* (Fagaceae)" (HANNEMANN, 1979); "*Quercus* (Fagaceae); *Prunus spinosa* LINN. (Rosaceae); *Juniperus* (Cupressaceae)" (BRADLEY *et al.*, 1979). The larvae feed in the terminal shoots or spun leaves of the hosts (BRADLEY *et al.*, 1979).

Remamrks. This species is closely related to the following four species, *arguta, virulenta, yasudai* and *aeolopa*. The male of *reliquana* is characterized by the white, semi-pellucid hindwing with the grayish fuscous apical suffusion, but the female is difficult to separate from the relatives on external characters. The male genitalia differ from those of the related species by the aedeagus with a series of minute dents on its dorsal wall and the spine cluster Spc_1 consisting of 30 – 34 spines; the female genitalia differ by the pear-shaped sterigma which abruptly tapers posteriorly and the ellipsoidal corpus bursae with a rhomboid signum.

ISSIKI (1950: 482) described the adult of *reliquana*, but his description does not match *reliquana* in that the hindwing of the male is gray instead of white. We consider that his description represents *virulenta, yasudai* or *aeolopa*.

Lobesia (Lobesia) arguta sp. nov.

(Figs. 9, 28, 36, 40)

Lobesia aeolopa: ISSIKI & MUTUURA, 1962: 4 (misidentification).
Lobesia sp. 1: SUZUKI & KOMAI, 1984: 101 – 102, fig. 1.
Lobesia sp.: KOMAI, 1991: 3 – 4, figs. 26 – 27.

Wing expanse: 12 – 15 mm.

♂ (Fig. 9). Head pale ochreous; vertex with tufts mixed with pale brown. Antenna pale yellowish brown, annulated with dark brown. Labial palpus pale ochreous; outer surface of median segment finely irrorated with dark brown. Thorax light yellowish brown, mixed with dark brown. Hindleg with pale ochreous tibial hair pencil 0.8 times as long as tibia. Abdomen dark fuscous gray, with pale ochreous anal tufts. Abdominal pouch large, 1.3 times the length of second abdominal tergite, with dense yellowish brown scales. Forewing with well defined pterostigma; ground color white ochreous, overlaid throughout with plumbeous; markings well defined, tawny ochreous, mixed with dark fuscous; basal patch suffused with plumbeous except along outer margin and divided into basal and subbasal fasciae by a tawny ochreous line;

NII-Electronic Library Service

The Lepidopterological Society of Japan

central fascia subtriangular, inner edge gently prominent at upper 1/4, concave medially, outer edge usually with a hook curved upwards in middle; pretornal patch well developed, subtriangular; terminal patch narrow, rounded, margined with dark brown on inner and outer sides; apical spot clouded with fuscous in its inner half; cilia light ochreous, with a dark fuscous subbasal line, above apex tinged with dark brown and on tornus grayish. Hindwing triangular; apex rather acute, termen tolerably straight; light grayish brown, becoming darker apically; cilia light gray, with a grayish brown subbasal line.

♀. Forewing similar to that of male, but pterostigma weaker than in male. Hindwing broader than in male; elongate-semiovate; apex less pointed; grayish brown.

Male genitalia (Figs. 28, 36). Tegumen clothed laterally with a cluster of long, filiform scales (these not drawn in Fig. 28 except for sockets); socius distinct, with a group of modified scales; gnathos membranous, relatively narrow. Valva broad; cucullus slender, with a rounded top; sacculus narrow, sclerotized; Spc_1 consisting of about 36 – 40 differently sized spines; Spc_2 of a row of 12 – 15 spines; a series of small spines present between Spc_1 and Spc_2. Aedeagus short, curved and tapering distally, with a group of minute dents on distal half of its left wall (Figs. 36).

Female genitalia (Fig. 40). Limen of a wide convex median band, with a subtriangular lobe on each side. Sterigma pear-shaped, aciculate, tubular anteriorly, rounded posteriorly. Ductus bursae narrow, more or less short. Corpus bursae large somewhat emarginated at bottom, with a granulate patch at base; signum rhomboid.

Material examined. Holotype: Asahikawa, Hokkaido, Japan, ♂, em. 28. VI. 1966 (S. SUZUKI), *ex Abies sachalinensis*. Paratypes: HOKKAIDO: KUSHIRO: Teshikaga, 1 ♀, 15. VI. 1959 (T. KODAMA), *ex* spun leaves of *Tsuga sieboldii*. KAMIKAWA: same locality as holotype, 5 ♂, 6 ♀, em. 8 – 30. VI. 1966 (S. SUZUKI), *ex A. sachalinensis*; Mt. Daisetsuzan, 2♂, 2♀, 2 – 5. VI. 1976 (S. YAMAZAKI), *ex Abies homolepis*. SORACHI: Bibai, 1 ♀, 21. VI. 1982 (F. KOMAI). OSHIMA: Oonuma, 1 ♂, 21. VII. 1963 (S. MORIUTI). HONSHU: SAITAMA: Ageo, 1 ♂, 15. VI. 1964 (A. KAWABE). TOKYO: Mt. Takaosan, 1 ♀, 6. VII. 1951 (M. HOSHINO). NAGANO: Shibunoyu near Tengudake, 2 ♀, 24 – 25. V. 1958 (S. MORIUTI), *ex Tsuga diversifolia*; Kamikouchi, 2 ♂, 20. VII. 1951 (A. MUTUURA). AICHI: Uradani, 2 ♀, 28. VI. 1975 (Y. ARITA), 1 ♀, 12. VI. 1977 (Y. ARITA), 1 ♀, 8. VII. 1982 (Y. ARITA). MIE: Omata, 2 ♂, em. 2. VI. 1957 (T. KODAMA), *ex* spun leaves of *T. sieboldii*, 1 ♀, em. 6. V. 1958, 1 ♂, 1 ♀, 1. VI. 1957 (T. YASUDA). NARA: Kasugayama, 1 ♂, 1 ♀, em. 6. V. 1958 (T. KODAMA), *ex T. sieboldii*; 1 ♂, 1. VI. 1956 (T. YASUDA). YAMAGUCHI: Usa, 1 ♀, 30. V. 1953 (T. KODAMA).

Distribution. Japan (Hokkaido, Honshu).

Flight period. May to July. Univolutine.

Host plants. *Abies sachalinensis* (FR. SCHM.) MASTERS; *A. homolepis* SIEB. et ZUCC.; *Tsuga sieboldii* CARR.; *T. diversifolia* (MAXIM.) MASTERS; "*Picea*" (SUZUKI & KOMAI, 1984) (Pinaceae). Larvae feed in the spun needles of the hosts; overwinters in the late instar larva (SUZUKI & KOMAI, 1984).

Remarks. *L. arguta* is closely related to the preceding species, *reliquana*, and the

NII-Electronic Library Service

The Lepidopterological Society of Japan

following three species, *virulenta, yasudai* and *aeolopa*, but it may be distinguished from them by the forewing with the well defined tawny ochreous markings and with the basal patch divided into the basal and the subbasal fasciae. Among the five species *arguta* only has the non-semi-pellucid hindwing in male, and may be reliably separated from the others by the following genitalic characters: in male the aedeagus with a group of minute dents on distal half of its left wall and the spine cluster Spc_1 consisting of 36 – 40 spines; in female the pear-shaped sterigma abruptly tapering posteriorly and the corpus bursae emarginated, with a rhomboid signum.

Lobesia (Lobesia) virulenta sp. nov.
(Figs. 3, 4, 13, 22, 29, 37, 41)

Lobesis sp. 2: SUZUKI & KOMAI, 1984: 102, fig. 2.

Wing expanse: 9 – 12 mm.

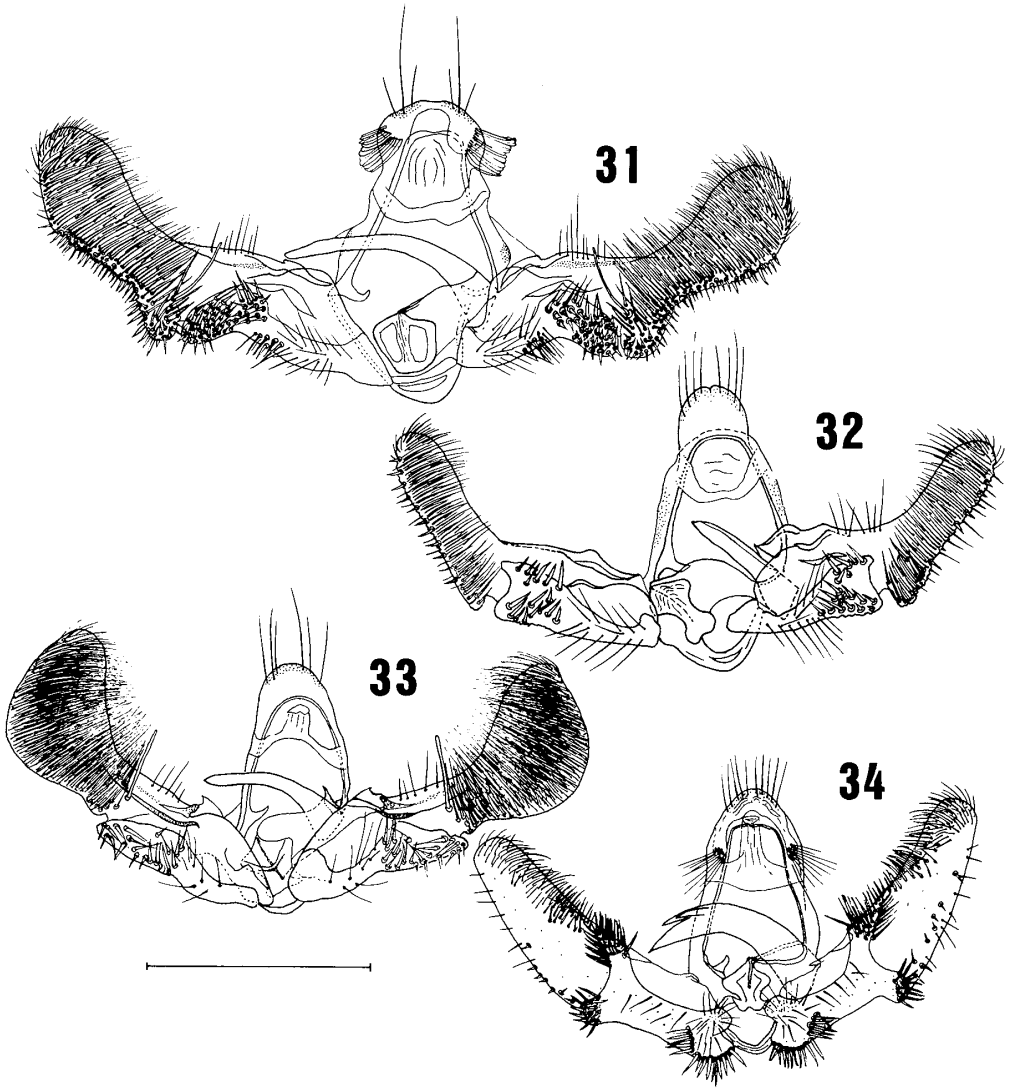
♂ (Figs. 3, 22). Head pale ochreous; vertex irrorated with pale brown. Antenna pale yellowish brown, annulated with light brown. Labial palpus light yellowish brown; median and terminal segments finely irrorated outwardly with dark brown. Thorax light yellowish brown, mixed with dark brown and ochreous. Hindleg with pale ochreous tibial hair pencil as long as tibia. Abdomen dark grayish fuscous. Abdominal pouch large, 1.3 the length of second abdominal tergite, with dense yellowish scales. Forewing with well defined pterostigma slightly prominent (Fig. 13); R_2 almost equidistant to R_1 and R_3 at base (Fig. 22); ground color white ochreous, suffused with plumbeous; markings yellowish ochreous; basal patch angulated in outer edge, strigulated with dark gray; central fascia subtriangular, inner edge slightly concave, outer edge angulated in middle, the upper half serrulate, irregularly margined with dark fuscous; a subtriangular plumbeous suffusion pronounced on the lower half of space between basal patch and central fascia; pretornal patch subquadrate or semicircular; terminal patch rounded, tawny fuscous, extending narrowly to costa; apical spot ovate, surrounded by a fuscous line; cilia sordid light ochreous, with a ochreous subbasal line, above apex tinged with blackish fuscous and on tornus grayish. Hindwing (Fig. 22) subtriangular, apex rather pointed, termen straight; pale grayish white, semi-pellucid, becoming darker toward apex; cilia white, tinged with grayish fuscous apically, with a grayish subbasal line.

♀ (Fig. 4). Forewing similar to that of male, but pterostigma weaker than in male. Hindwing broader than in male, elongate-semiovate, apex less pointed; grayish brown, becoming darker apically.

Male genitalia (Figs. 29, 37). Tegumen clothed laterally with a cluster of long, filiform scales (these not drawn in Fig. 29 except for sockets); socii distinct, with a group of modified scales; gnathos membranous. Valva rather broad; cucullus slender, with rather pointed apex; sacculus narrow, more or less sclerotized; Spc_1 consisting of about 21 – 25 differently sized spines; Spc_2 of a row of spines; a series of small spines present between Spc_1 and Spc_2. Aedeagus short, gently curved, tapering distally, with

NII-Electronic Library Service

The Lepidopterological Society of Japan



Figs. 31 – 34. Male genitalia, caudal view (scale : 0.5 mm). 31. *Lobesia (Lobesia) aeolopa* MEYRICK. 32. *L. (L.) mieae* KAWABE. 33. *L. (L.) bicinctana* (DUPONCHEL). 34. *L. (Neolobesia) coccophaga* FALKOVITSH.

a group of extremely minute dents on proximal half of its left wall (the dents barely visible under 200× magnification) (Fig. 37).

Female genitalia (Fig. 41). Limen of a narrow convex median band, with a small, subtriangular lobe on each side. Sterigma pear-shaped, aciculate, concaved anteriorly, gradually tapering posteriorly; ductus bursae with a narrow part embraced by sterigma, the part narrower than width of lateral lobe of limen; corpus bursae small, rounded, with a granulate patch at base; signum arrowhead-shaped.

Material examined. Holotype : Mt. Iwawakisan, Osaka Pref., Honshu, Japan, ♂, 23. VII. 1987 (Y. S. BAE). Paratypes : HOKKAIDO : KAMIKAWA : Higashi-Asahikawa, 1 ♂, 7. IX. 1961 (T. OKU), *ex Larix leptolepis*. TOKACHI : Tomuraushi Spa, 1 ♂, 23. VI. 1986 (F. KOMAI). SORACHI : Bibai, 1 ♀, 27. VII. 1964 (K. KAMIJO), *ex L. leptolepis*; Yuni, 1 ♂, 24. V. 1961 (T. KUMATA); Shisun, 1 ♀, em. 4. VIII. 1964 (K.

NII-Electronic Library Service

The Lepidopterological Society of Japan

KAMIJO), *ex L. leptolepis*; Nopporo, 1 ♀, 30. VI. 1957 (T. OKU). HONSHU: IWATE: Morioka, Kuriyagawa, 1 ♂, 1 ♀, 1－10. IX. 1963 (T. OKU), *ex* seed of *Angelica* sp.; 1 ♂, 1 ♀, 11. VIII. 1965. SAITAMA: Kumagaya, Rissho University, 4 ♂, 6 ♀, em. 9－18. VIII. 1988 (S. AOKI), *ex* gall of *Ceratovacuna nekoashi* on *Styrax japonicus*. TOKYO: Mt. Takaosan, 1 ♂, 13. V. 1951 (M. HOSHINO), 2 ♂, 1. VII. 1951. NIIGATA: Kurokawa, 1 ♀, 27. V. 1962 (R. SATO); Maki, 1 ♂, 10. V. 1973. NAGANO: Ueda, 1 ♂, 1 ♀, 23. VII. 1966 (S. YAMAZAKI); Todai, 2 ♂, 2 ♀, 12－17. VIII. 1972 (F. KOMAI); Ina, Minamizawa-kosen, 1 ♂, 2 ♀, 16－17. VIII. 1972 (F. KOMAI); Jizo-toge, 1 ♂, 1 ♀, 2. VII. 1972 (A. KAWABE); Shimoina, Kozawa, 1 ♀, 29. VIII. 1987 (K. FUJISAWA). AICHI: Toyota, Mt. Rokushosan, 1 ♂, 1 ♀, 9－15. V. 1976 (Y. ARITA), 1 ♂, 9. VII. 1977. MIE: Ohdaikyo, 1 ♂, 29. VI. 1975 (Y. ARITA). KYOTO: Hanase, 1 ♂, 16. V. 1968 (S. MORIUTI). NARA: Mt. Yoshinoyama, 1 ♂, 16－17. VIII. 1969 (S. MORIUTI). OSAKA: same locality as holotype, 9 ♂, 1 ♀, 23. VII. 1987 (Y. S. BAE); Mt. Inunakisan, 1 ♂, 30. IV. 1987 (T. YASUDA & Y. S. BAE), 2 ♂, 22. IX. 1987 (T. YASUDA & Y. S. BAE); Tondabayashi, 1 ♀, 20. V. 1988 (S. MORIUTI). TOTTORI: Funaoka, 2 ♂, 2 ♀, em. 3. VII. 1971 (H. FUKUDA), *ex Pyrus serotina* var. *culta*. SHIKOKU: TOSA [KOCHI]: Yanase, 1 ♂, 2. V. 1951 (S. ISSIKI).

Distribution. Japan (Hokkaido, Honshu, Shikoku).

Flight period. May to June (Hokkaido); August (Tohoku district of Honshu); May and July to August (Kanto and Chubu districts of Honshu); late April to May and July to September (Kinki district of Honshu).

Host plants. *Larix leptolepis* (SIEB. et ZUCC.) GORDEN (Pinaceae); *Pyrus serotina* REHDER var. *culta* REHDER (Japanese pear) (Rosaceae); *Angelica* sp. (Umbelliferae); gall of *Ceratovacuna nekoashi* (SASAKI) (Aphididae) on *Styrax japonicus* SIEB. et ZUCC. (Styracaceae). According to FUKUDA (pers. comm.), the larvae attack the fruits of the Japanese pear in Tottori Prefecture. The larvae also live in the galls of *Ceratovacuna nekoashi* on *Styrax japonicus*, feeding in the inner wall of the galls (AOKI, pers. comm.).

Remarks. *L. virulenta* and the next species, *yasudai*, are very closely allied to each other, and it is impossible to separate them in external characters. The differences of the genitalic characters between the two species are very slight; in *virulenta* the aedeagus gently curved, with a group of extremely minute dents on the proximal half of its left wall and the ductus bursae with a narrow part embraced by sterigma, while in *yasudai* the aedeagus strongly curved proximally and almost straight distally, with a dent near apex on its left wall and the ductus bursae with a broad part embraced by sterigma. *L. virulenta* is also similar to *aeolopa* in external characters. The differences will be discussed under *aeolopa*.

Lobesia* (*Lobesia*) *yasudai sp. nov.
(Figs. 5, 6, 30, 38, 42)

Wing expanse: 9－14 mm.

This species is very similar and closely related to the preceding species, as mentioned under the remarks of the latter.

NII-Electronic Library Service

The Lepidopterological Society of Japan

Male (Figs. 30, 38) and female genitalia (Fig. 42). Extremely similar to those of *virulenta*. The differences have been discussed under *virulenta*.

Material examined. Holotype: Bibai, Sorachi, Hokkaido, Japan, ♂, em. 13. IV. 1983 (F. KOMAI), *ex Hydrangea paniculata* SIEB. Paratypes: HOKKAIDO: SORACHI: same locality as holotype, 3 ♂, 2 ♀, em. 13－15. IV. 1983 (F. KOMAI), *ex H. paniculata*, 2 ♂, 1 ♀, em. 15. IV. 1983 (F. KOMAI), *ex Rosa rugosa*. ISHIKARI: Sapporo, 1 ♂, 11. VII. 1967 (T. KUMATA), *ex Prunus ssiori*. HONSHU: IWATE: no specific locality, 1 ♀, 3. VIII. 1958 (T. OKU); Morioka, Kuriyagawa, 1 ♂, 11. VIII. 1965 (T. OKU). TOKYO: Tama Hill, 1 ♀, 12. VII. 1961 (A. KAWABE). NIIGATA: Maki, Nika, 2 ♂, 10. V. 1970 (R. SATO). ISHIKAWA: Anamizu, 1 ♂, 18. VIII. 1961 (A. KAWABE). NAGANO: Ina, Minamizawa-kosen, 3 ♂, 2 ♀, 16－17. VIII. 1972 (F. KOMAI); Todai, 1 ♂, 2 ♀, 12. VIII. 1972 (F. KOMAI). GIFU: Hikagedaira, 2 ♂, 2 ♀, 5. VIII. 1978 (F. KOMAI). AICHI: Toyota, Mt. Rokushosan, 1 ♂, 2 ♀, 4. VI. 1976 (Y. ARITA).

Distribution. Japan (Hokkaido, Honshu).

Flight period. May to July and August. Probably bivoltine.

Host plants. *Hydrangea paniculata* SIEB. (Saxifragaceae); *Rosa rugosa* THUNB., *Prunus ssiori* FR. SCHM. (Rosaceae). The larvae live amongst spun seeds of *Hydrangea paniculata* or spun leaves of *Rosa rugosa*.

Remarks. This species is named after Professor T. YASUDA, University of Osaka Prefeture.

Lobesia (Lobesia) aeolopa MEYRICK
(Figs. 7, 8, 14－17, 19, 23, 31, 43)

Lobesia aeolopa MEYRICK, 1907: 976; DIAKONOFF, 1950: 291, pl. 3, fig. 1, pl. 4, fig. 10; CLARKE, 1955: 37; 1958: 464, pl. 231, figs. 2－2a; ISSIKI, 1957: 66, pl. 10, fig. 317; KAWABE, 1982: **1**: 114, **2**: 22, 172, pl. 25, fig. 10.

Lobesia proterandra MEYRICK, 1921: 155; DIAKONOFF, 1954: 45 (synonym of *aeolopa*).

Lobesia dryopelta MEYRICK, 1932: 225; DIAKONOFF 1950: 292, pl. 3, fig. 3, pl. 4, fig. 9; DIAKONOFF, 1954: 45 (synonym of *aeolopa*).

Lobesia (Lobesia) dryopelta: OBRAZTSOV 1953: 91.

Lobesia (Lobesia) aeolopa: DIAKONOFF, 1954: 44－49, figs. 15, 24; 1956a: 520－521; 1973: 381; 1982: 70.

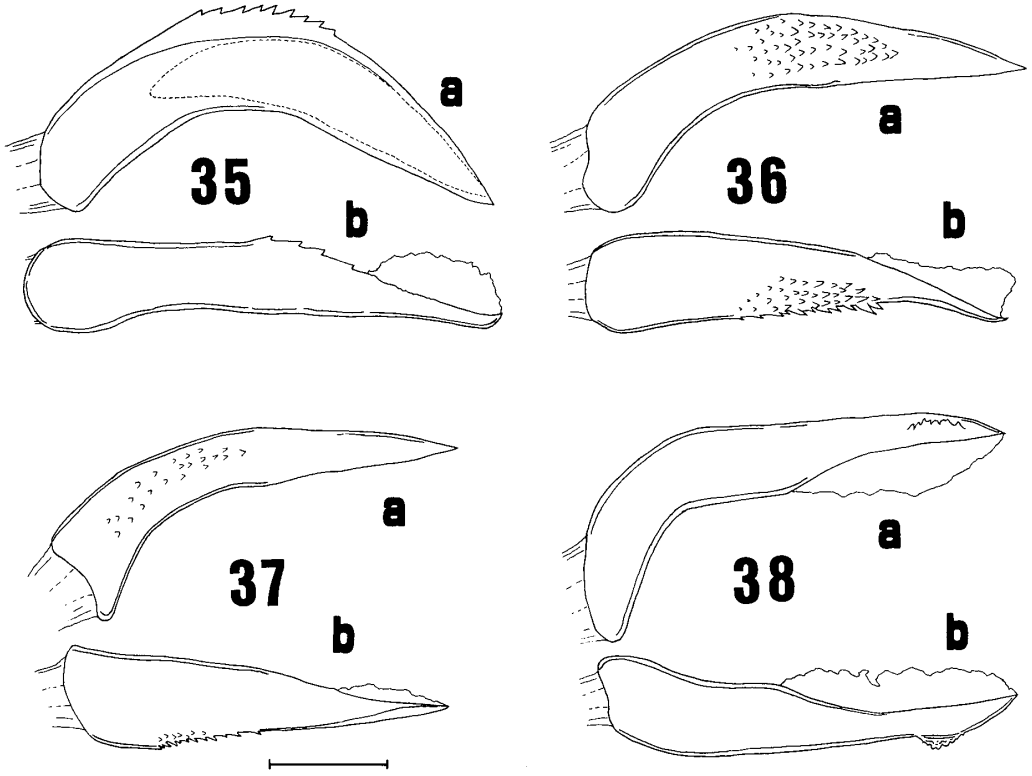
Lobesia eustales BRADLEY, 1956: 146; 1961: 122 (synonym of *aeolopa*).

Wing expanse: 9－14 mm.

♂ (Figs. 7, 23). Head pale ochreous; vertex mixed with pale brown on apical half. Antenna pale yellowish brown, annulated with dark brown. Labial palpus light yellowish brown; median segment finely irrorated with dark brown; terminal segment irrorated with white-tipped scales. Thorax light yellowish brown, mixed with dark brown. Hindleg with tibial hair pencil 0.8 times as long as tibia (Fig. 19). Abdomen dark grayish fuscous. Abdominal pouch (Figs. 15－17) large, 1.3 times the length of second abdominal tergite, with dense yellowish scales. Forewing with distinct pterostigma (Fig. 15); ground color white ochreous, suffused with dark plumbeous;

NII-Electronic Library Service

The Lepidopterological Society of Japan



Figs. 35－38. Detail of aedeagus, a : lateral view, b : dorsal view (scale : 0.1 mm). 35. *Lobesia (Lobesia) reliquana* (HÜBNER). 36. *L. (L.) arguta* sp. nov. 37. *L. (L.) virulenta* sp. nov. 38. *L. (L.) yasudai* sp. nov.

markings grayish ochreous; basal patch suffused with dark plumbeous and strigulated with dark gray, angulated in outer edge; central fascia subtriangular, inner edge concave medially, outer edge angulated in middle, the upper half being serrulate and irregularly irrorated with blackish gray along it; a subtriangular dark plumbeous suffusion on space between basal patch and central fascia; terminal patch rounded, tawny fuscous, extending narrowly to costa; apical spot ovate, surrounded by a fuscous line; cilia sordid fuscous ochreous, with a dark fuscous subbasal line and a faint subapical shade. Hindwing subtriangular, apex rather acute, termen straight; pale grayish brown, semi-pellucid, becoming darker apically; cilia light gray, with a grayish brown subbasal line.

♀ (Fig. 8). Forewing similar to that of male, but pterostigma weaker than in male. Hindwing elongate-semiovate, with apex less pointed; grayish brown, suffused with dark gray apically.

Male genitalia (Fig. 31). Tegumen clothed laterally with a cluster of long, filiform scales (these not drawn in Fig. 31 except for sockets); socius distinct, with a group of modified scales; gnathos membranous, relatively narrow. Valva broad; cucullus clavate; sacculus well developed, more or less sclerotized; Spc_1 consisting of many differently sized spines; Spc_2 a row of 4－6 weak spines. Aedeagus long (longer than caulis), slender, strongly curved and obliquely truncate at apex, with two or three

NII-Electronic Library Service

The Lepidopterological Society of Japan

minute distal dents on its left wall.

Female genitalia (Fig. 43). Limen of a rather wide convex median band, with a semicircular lobe on each side. Sterigma tubular, tapering posteriorly; ductus bursae rather broad; corpus bursae emarginated at base, with a densely granulated patch; signum rhomboid.

Material examined. HONSHU: IWATE: Morioka, 1 ♀, 11. VIII; 1 ♀, 29. VII. CHIBA: Mt. Tomisan, 1 ♀, 2. VIII. TOKYO: Setagaya, 1 ♂, 1 ♀, 7. IX; Meguro, 2 ♂, 14. VII. NAGANO: Shimoina, 1 ♀, 1. XI. SHIZUOKA: Base of Mt. Fuji, Kagosaka-toge, 1♀, 30－31. VII. AICHI: Kasugai, Takagi, 1♂, 3♀, 4. XI; Chita, Minamihama-cho, 1 ♀, 23. VII. MIE: Owaseshi, Suigi, 1 ♂, 1 ♀, 4. V; no specific locality, 1 ♀, 21. X. KYOTO: Mt. Hieizan, 1 ♀, 7. VIII; no specific locality, 1 ♀, 25. VIII. NARA: Ano, 1 ♂, 24. VI; Uenoji, 2 ♀, 14. VI; Tsukigase, 7 ♂, 2 ♀, 1－2. VI; Shiroganemura, 1 ♀, em. 10. VIII, *ex Diospyros kaki*. OSAKA: Minoo, 1 ♂, 1 ♀, 20. V, 1 ♂, 10. V, em. 29. IV, *ex Thea sinensis*; Ikeda, 1 ♀, 17. IX, 1 ♂, em. 6. III, *ex T. sinensis*; Sakai, 1 ♂, 10. XI, 1 ♀, 31. VIII, 1 ♂, em. 24. IV, *ex Ulmus parvifolia*, 1 ♂, 1 ♀, em. 22. IX, *ex* fruits of *Vitis*, 4 ♂, 16 ♀, em. 23. IV－22. VI, *ex T. sinensis*; 5 ♀, em. 2－26. V, *ex T. sinensis*; 3 ♂, 10 ♀, 23. IV－2. V, *ex T. sinensis*; Tondabayashi, 11 ♂, 20 ♀, 2. VII－7. VIII, 1 ♂, 1 ♀, 4－8. IX, 6 ♂, 6 ♀, 1－28. X, 2 ♂, 5. XI, 3 ♀, 13. VII－16. VIII; Mt. Kongosan, 1♂ 6. VII; Izumi, 3♀, em. 18. IV, 3♀, em. 25－26. IV, *ex T. sinensis*; Mt. Iwawa-kisan, 1 ♂, 31. VIII, 1 ♀, em. 4. VIII, *ex Albizzia julibrissin*, 1 ♂, 27. VI, 2 ♂, 2 ♀, 3. X; Mt. Makiosan, 4 ♀, em. 27. III－27. IV, *ex T. sinensis*, 1 ♂, 4 ♀, em. 2. V, *ex T. sinensis*; Mt. Inunakisan, 1 ♀, 3. IX, 1 ♀, 30. IV, 3 ♀, 16. VII, 4 ♂ 2 ♀, 22. VIII, 1 ♂, 4 ♀, 22. IX; Mt. Inakurayama, 1 ♂, 22. XI. HYOGO: Nishinomiya, 1 ♀, 25. V, 1 ♀, 22. VI, *ex Prunus* x *yedoensis*; Haga, 1 ♂, 30－31. VII. WAKAYAMA: Kozagawa, 2 ♂, 20. VI; Kii-Ooshima Is., 2♂, 30. IV. SHIKOKU: EHIME: Omogokei, 1♀, 21. VI. KYU-SHU: FUKUOKA: Mt. Hikosan, 1 ♂, 27. IX. TSUSHIMA IS.: Mt. Tatera, 4 ♂, 14. X; Mt. Oboshisan, 1 ♂, 17. X. MIYAZAKI: Mt. Kirishimayama, 1 ♀, 3. V. KAGOSHIMA: Mt. Shiroyama, 1 ♂, 16. X; Nishisakurazima, 2 ♀, em. 11. IV, *ex Eriobotrya japonica*, 1 ♂, em. 16. I, *ex young fruit of E. japonica*; Satamisaki, 1 ♂, 22. V. YAKUSHIMA IS.: Onoaida, 3♂, 2♀, 8－9. IX; Kurio, 1♂, 1♀, 7. IX; Miyanoura, 1♀, 10. IX. RYU-KYUS: IRIOMOTE IS.: Nakama, 2 ♂, 20－21. IX; Kampira, 1 ♀, 30－31. III. MIYAKO IS.: no specific locality, 1 ♂, 24. III. ISHIGAKI IS.: Takeda, 1 ♀, 10. III; Omoto-dake, 1 ♀, 4. V, 1 ♀, 6. V; Nagura, 4 ♂, 6 ♀, em. 5－20. XII, *ex Glochidion hongkongense*, 1 ♂, 2 ♀, 9. XI; Banna-dake, 1 ♀, 22. III.

Distribution. Japan (Honshu, Shikoku, Kyushu, Ryukyus), India, Sri Lanka, Myanmar, Java, Taiwan, Solomon Is., Africa and Madagascar.

Flight period. Late April to November (Honshu); early May to October (Kyushu); March to November (Ryukyus).

Host plants. Japan: *Ulmus parvifolia* JACQUIN (Ulmaceae); *Eriobotrya japonica* (THUNB.) LINDLEY (LOQUAT); *Prunus* x *yedoensis* MATSUMURA (Rosaceae); *Albizzia julibrissin* DURAZZINI (Leguminosae); *Glochidion hongkongense* MUELL.-ARG. (Euphorbiaceae); *Vitis* (Vitaceae); *Diospyros kaki* THUNB. (Ebenaceae); "*Actinidia chinensis* PLANCH. var. *hispida* C. F. LIANG (kiwi fruit)" (Actinidiaceae) (KODAMA, 1988); *Thea*

NII-Electronic Library Service

The Lepidopterological Society of Japan

sinensis LINN. (tea) (Theaceae). South Asia (Java): "*Ricinus communis* LINN. (Euphorbiaceae); *Citrus* (Rutaceae); *Melochia indica* GRAY (Sterculiaceae); *Pluchea indica* LESS. (Compositae)" (DIAKONOFF, 1982). The larva lives in spun leaves (often withered leaves), shoots, flowers, or fruits of the host plants. Pupation takes place in the larval habitation or folded leaves near larval habitation. Overwinters in mature larva. KODAMA (1988) reported the larvae attacked kiwi fruit (*Actinidia chinensis* var. *hispida*).

Remarks. In external characters the female of *L. aeolopa* is similar to that of *reliquana, arguta, virulenta* and *yasudai*; the male is similar to that of *virulenta* and *yasudai*, and these three have all the grayish, semi-pellucid hindwings. *L. aeolopa* is usually darker than its allied species, though the coloration of *aeolopa* is individually variable. The best characters for specific identification are afforded by the genitalia of both sexes. *L. aeolopa* has the clavate cucullus and the long aedeagus which is longer than the caulis in the male, and the tubular sterigma gradually tapering posteriorly and the emarginated corpus bursae with the rhomboid signum in the female.

Lobesia (Lobesia) mieae KAWABE (Figs. 10, 24, 32, 44)

Lobesia mieae KAWABE, 1980: 20, figs. 4, 17; KAWABE, 1982: **1**: 114, **2**: 22, 172, pl. 25, fig. 11.

Wing expanse: 9–11 mm.

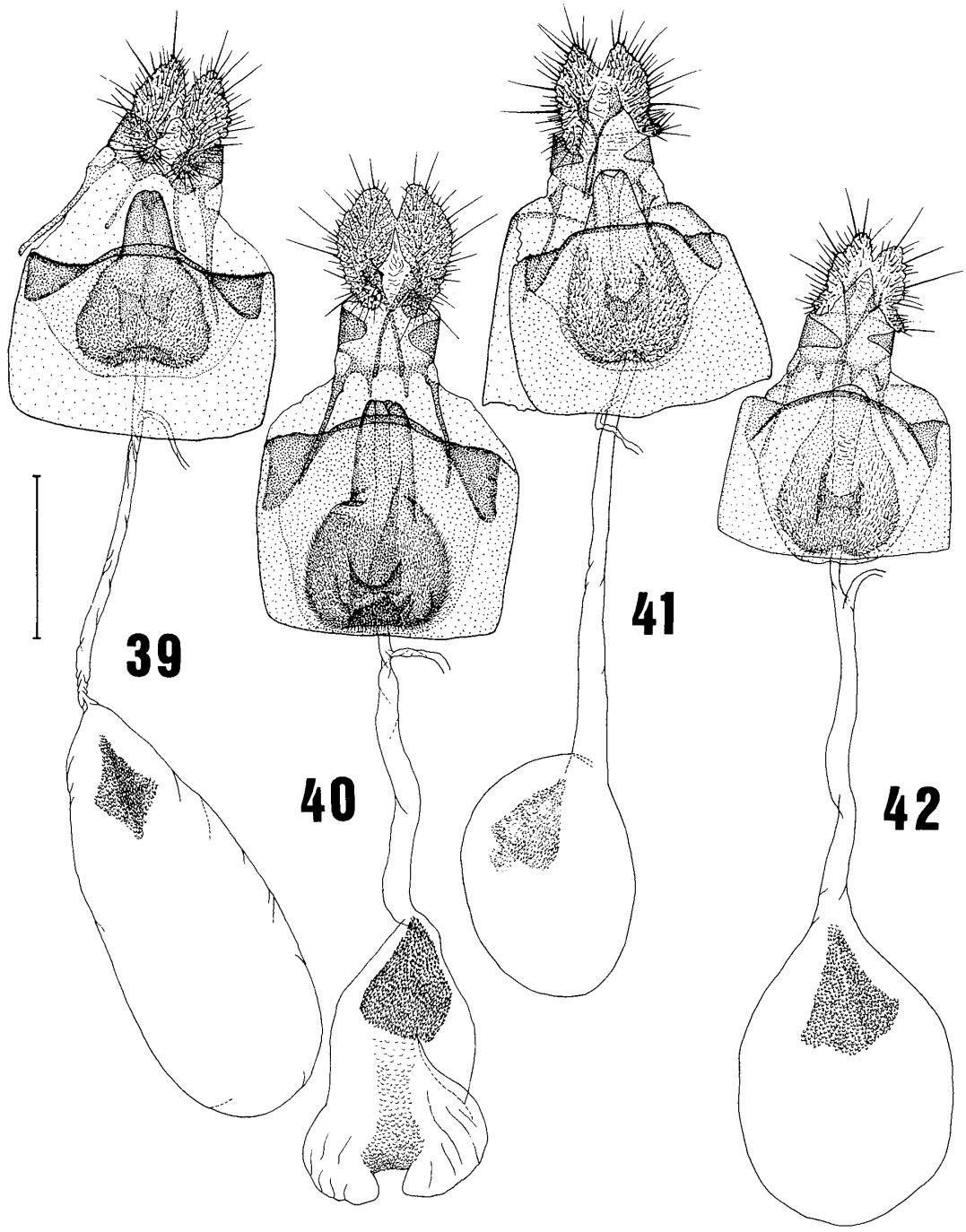
♂♀ (Figs. 10, 24). Head light tawny; vertex with tufts mixed with pale brown. Antenna pale yellowish brown, annulated with dark brown. Labial palpus light ochreous; median segment mixed with dark brown, the inner side being white. Thorax tawny, mixed with dark brown. Hindleg with tibial hair pencil 0.5 times as long as tibia. Abdomen dark fuscous gray. Abdominal pouch not found. Forewing with weak pterostigma situated between veins Sc and R_2 (Fig. 24); R_1 and R_2 not sinuate; R_2 almost equidistant to R_1 and R_5 at base (Fig. 24); ground color grayish brown, overlaid with plumbeous; markings dark brown; basal patch overlaid with plumbeous, obscurely margined with a dark fuscous serrate line (by the line the basal patch and space between basal patch and central fascia barely separated); central fascia subtriangular, widely suffused with yellowish orange except along the outer edge; pretornal patch rounded; terminal patch large, rounded; apical spot rounded, blackish; cilia dark grayish, with a dark fuscous subbasal line and with a faint subapical shade. Hindwing trapezoidal, more or less pointed at apex; CuA_2 arising from basal 3/5 (Fig. 24); dark grayish brown; cilia fuscous gray, tinged with blackish around apex, with a dark grayish subbasal line.

Male genitalia (Fig. 32). Tegumen produced distally into a swollen lobe; socius indistinct; gnathos membranous, relatively broad laterally. Valva with long and slender cucullus; sacculus strongly thickened, with clusters of spines separated into upper and lower groups. Aedeagus straight, tapering distally.

Female genitalia (Fig. 44). Limen of a straight median band, with a small lobe on

NII-Electronic Library Service

The Lepidopterological Society of Japan



Figs. 39－42. Female genitalia, ventral view (scale : 0.5 mm). 39. *Lobesia (Lobesia) reliquana* (HÜBNER). 40. *L. (L.) arguta* sp. nov. 41. *L. (L.) virulenta* sp. nov. 42. *L. (L.) yasudai* sp. nov.

NII-Electronic Library Service

The Lepidopterological Society of Japan

each side. Sterigma long, tubular, tongue-shaped; ductus bursae narrow, long; corpus bursae small, with a patch of granulation in bottom; signum absent.

Material examined. HONSHU: OSAKA: Nose, 1 ♂, 1 ♀, em. 20. XII, *ex* seed of *Rohdea japonica*; Mt. Iwawakisan, 1 ♀, 1. IX. NARA: Mt. Yoshinoyama, 1 ♀, 16–17. VIII.

Distribution. Japan (Honshu).

Flight period. August to September.

Host plant. *Rhodea japonica* (THUNB.) ROTH. (Liliaceae).

Remarks. This species may be distinguished from other species of the genus by the forewing with the central fascia widely suffused with yellowish orange, by the male genitalia with the tegumen produced distally, and by the female genitalia with the tubular, tongue-shaped sterigma.

Lobesia (Lobesia) bicinctana (DUPONCHEL)
(Figs. 11, 25, 33, 45)

Grapholitha bicinctana DUPONCHEL, 1844: 508, pl. 89, fig. 2.
Lobesia lugdunana GUENÉE, 1845: 298.
Polychrosis bicinctana: RAGONOT, 1894: 209; KENNEL, 1916: 454, pl. 18, figs. 39, 40.
Lobesia bicinctana: GUENÉE, 1845: 298.
Lobesia (Lobesia) bicinctana: OBRAZTSOV, 1953: 90; DIAKONOFF, 1954: 40; HANNEMANN, 1961: 200, fig. 415, pl. 20, fig. 9; KUZNETSOV, 1978: 452, fig. 393–1.

Wing expanse: ♂, 10 mm; ♀, 13 mm.

♂ ♀ (Figs. 11, 25). Head light tawny; vertex with tufts slightly darker. Antenna white ochreous, annulated with dark brown. Labial palpus light ochreous; median segment mixed with dark brown on outer surface, white on inner surface; terminal segment partly concealed by projecting scales of median segment. Thorax dark brown, mixed with light ochreous. Hindleg with ochreous tibial hair pencil 0.8 times as long as tibia. Abdomen dark fuscous gray. Abdominal pouch 1.2 times the length of second abdominal tergite, with dense yellowish scales. Forewing with distinct pterostigma; chorda indistinct (Fig. 25); ground color pale ochreous, irrorated and suffused with dark grayish purple; markings ochreous, often mixed with dark brown; basal patch well defined, dark brown, obtusely angulated; central fascia obscurely defined, the inner edge shading completely into pale ochreous ground color and the outer edge continuing dark grayish brown suffusion lying between central fascia and terminal patch; pretornal patch well developed, elongate, marked with dark grayish purple; apical spot distinct, elongate, suffused with dark grayish purple; cilia sordid fuscous ochreous, tinged with dark gray or dark brown around apex, with a fuscous gray subbasal line. Hindwing trapezoidal; Rs and M_1 connate or approximated towards base; M_3 from middle between M_2 and CuA_1 at base (Fig. 25); pale grayish purple; cilia light gray, with a deep gray subbasal line.

Male genitalia (Fig. 33). Tegumen simple, rounded at top; socius indistinct; gnathos membranous, relatively broad at base. Valva with cucullus club-shaped and

NII-Electronic Library Service

The Lepidopterological Society of Japan

densely bristled; sacculus well developed, sclerotized; Spc_1 joining in Spc_2. Aedeagus long, slender, slightly curved, with apex obliquely truncate.

Female genitalia (Fig. 45). Limen of a straight median band, with a small lobe on each side. Sterigma tubular, conical; ductus bursae moderately long; corpus bursae with a granulated patch extending from bottom; signum indistinct.

Material examined. HOKKAIDO: TOKACHI: Nukabira, 1 ♀, 23–25. VII. IBURI: Yufutsu, 1 ♀, 14. VIII. HONSHU: IWATE: Morioka, 1 ♀, 13. VIII. NAGANO: Meiji-onsen, 1 ♂, 9. VIII; Todai, 1 ♂, 21–22. VIII, 2 ♀, 12. VIII; Kurumayama-kogen, 1 ♂, 19. VIII. NARA: Mt. Kojindake, 1 ♀, 8. VII. HIROSHIMA: Sandankyo, 1 ♀, 6. VI.

Distribution. Japan (Hokkaido, Honshu), Primorsk, Amur, Siberia, China, Europe, Ukraina and Asia Minor.

Flight period. June (Chugoku district of Honshu); July (Kinki district of Honshu); August (Hokkaido; Tohoku and Chubu districts of Honshu).

Host plant. Unknown in Japan. *Allium* (Liliaceae) is recorded in Europe (RAGONOT, 1894).

Remarks. This species is new to Japan. It may be distinguished from other species of the genus by the forewing with the dark brown basal patch and with the ochreous central fascia shading completely into the pale ochreous ground color in the inner edge, the male genitalia with the club-shaped cucullus and with the aedeagus truncate at apex, and the female genitalia with the tubular, conical sterigma.

Subgenus ***Neolobesia*** nov.

Type-species: *Lobesia coccophaga* FALKOVITSH, 1970

Forewing (Fig. 26) without chorda. Hindwing (Fig. 26) with Rs and M_1 stalked; CuA_2 from 1/2.

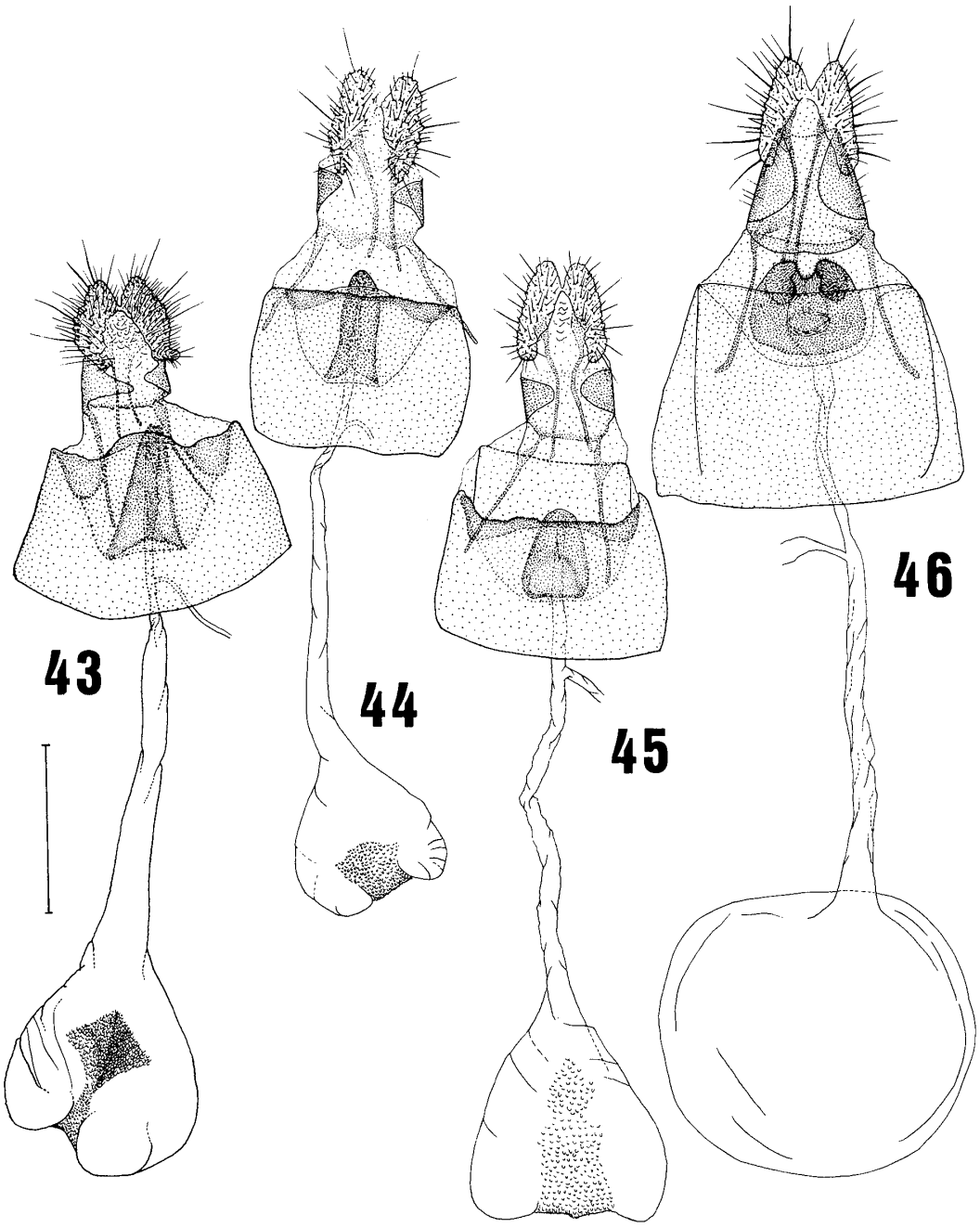
Male ganitalia (Fig. 34). Socius with a group of long bristles; cucullus gradually narrowed distally, bristled exclusively along the dorsal margin and clothed with a row of very short spines along the ventral edge; incision between sacculus and cucullus absent; sacculus with three spine clusters, of which the first cluster is located on the distal end, the second is located on the dorsal projection, and the last is located on the base, continuing a row of strong spines along the ventral margin; aedeagus long, curved, with a pair of distal processes on its dorsal wall; caulis very short.

Female genitalia (Fig. 46). Seventh sternite rectangular, weakly sclerotized; sterigma indicated by a circular plate with a pair of spinose tubercles, which is located on a shallow membranous pocket under the seventh abdominal sternite; ductus bursae long; corpus bursae without signum.

Remarks. This new subgenus is characterized chiefly by the absence of the chorda in the forewing, and by the presence of the bristles situated along the dorsal margin of the cucullus, and of a pair of distal processes on the dorsal surface of the aedeagus. The subgenus is represented by a single species, *coccophaga*. The gender is feminine.

NII-Electronic Library Service

The Lepidopterological Society of Japan



Figs. 43－46. Female genitalia, ventral view (scale : 0.5 mm). 43. *Lobesia (Lobesia) aeolopa* MEYRICK. 44. *L. (L.) mieae* KAWABE. 45. *L. (L.) bicinctana* (DUPONCHEL). 46. *L. (Neolobesia) coccophaga* FALKOVITSH.

NII-Electronic Library Service

The Lepidopterological Society of Japan

Lobesia (Neolobesia) coccophaga FALKOVITSH
(Figs. 12, 26, 34, 46)

Lobesia coccophaga FALKOVITSH, 1970 : 62－63, fig. 1; KAWABE, 1972 : 243, pl. 77, figs. 4, 8, pl. 78, fig. 12; 1982 : **1** : 114, **2** : 22, 172, pl. 25, fig. 12; PARK, 1983a : 42; 1983b : 715－716, figs. 380, 812.

Wing expanse : 9.5－13 mm.

♂♀ (Figs. 12, 26). Head light tawny, vertex rusty brown, irrorated with tawny fuscous. Antenna grayish purple. Labial palpus light ochreous; median segment mixed outside with dark brown. Thorax rusty gray, mixed with dark gray tipped scales; hindlegs with tibial hair pencil 0.8 times as long as tibia. Abdomen dark grayish fuscous. Abdominal pouch elongate, 1.3 times the length of second abdominal tergite, containing hair-like scales. Forewing with pterostigma gently thickened; R_2 deeply sinuate medially; chorda absent (Fig. 26); ground color pale ochreous, overlaid with plumbeous; markings strong brown, partially edged broadly with white; basal patch strongly angulated in middle; central fascia well defined, narrow, inner edge slightly curved, outer edge prominent medially, irregularly suffused with dark fuscous in upper half; pretornal patch small, elongate-ovate; terminal patch large, rounded, irregularly margined with dark fuscous; apical spot distinct, elongate, margined with dark fuscous; cilia sordid fuscous ochreous, tinged with dark fuscous around apex, with a dark gray subbasal line. Hindwing elongate-semiovate; Rs and M_1 stalked; CuA_2 from beyond 1/2 (Fig. 26); pale grayish purple; cilia grayish ochreous, tinged with dark gray around apex, with a dark gray subbasal line.

Male and female genitalia (Figs. 34, 46). As described for the subgenus.

Material examined. HONSHU : AOMORI : Hachinohe, Kikyono, 1 ♂, 1 ♀, 21. V. IWATE : Morioka, Yonai, 2 ♂, 17. V. TOKYO : Setagaya, 2 ♂, 15. VI, 1 ♂, 2. VII. NAGANO : Todai, 1 ♀, 12. VIII. OSAKA : Tondabayashi, 2 ♂, 3－8. XI, 1 ♀, 12. XII; Mt. Makiosan, 1 ♂, 4 ♀, em. 9. VI, *ex Lonicera japonica*, 1 ♂, 7 ♀, em. 9. VI, *ex L. japonica*, 2 ♂, 6 ♀, em. 17－27. VI, *ex L. japonica*, 4 ♂, 5 ♀, em. 22－27. VI, *ex L. japonica*; Mt. Inunakisan, 4 ♂, 6 ♀, 23－26. VI, *ex L. japonica*; Mt. Katsuragisan, 1 ♂, 1 ♀, em. 16－19. VI, *ex L. japonica*. SHIKOKU : KAGAWA : Chunan, Shioiri, 2 ♀, 5. VII. KYUSHU : FUKUOKA : Yahata, Orio, 1 ♀, 20. V.

Distribution. Japan (Honshu, Shikoku, Kyushu), Korea, Primorsk.

Flight period. May (Tohoku district of Honshu); June to July (Kanto district of Honshu); August (Chubu district of Honshu); June (Kinki district of Honshu); July (Shikoku); May (Kyushu); few specimens have been collected in November and December in Osaka Prefecture.

Host plant. *Lonicera japonica* THUNB. (Caprifoliaceae). Larvae feed in the buds and flowers of the host in spring.

Remarks. *L. coccophaga* is somewhat similar superficially to *reliquana* and its allied species, from which it may be easily separated by the tawny head and the distinct, strong brown markings in forewing. This species is quite distinct from other members of the genus in having the peculiar characters of venation and genitalia given under the description of the subgenus *Neolobesia*.

NII-Electronic Library Service

The Lepidopterological Society of Japan

References

BRADLEY, J. D., 1956. Records and descriptions of Microlepidoptera from Lord Howe Island and Norfolk Island collected by the British Museum (Natural History) Rennell Island Expedition 1953. *Bull. Br. Mus. nat. Hist.* (Ent.) **4**: 143－164.

————, 1961. Microlepidoptera from the Solomon Islands, Additional records and descriptions of Microlepidoptera collected in the Solomon Islands by the Rennell Island Expedition 1953－54. *Ibid.* **10**: 111－168, pls. 5－19.

————, TREMEWAN, W. G. and A. SMITH. 1979. *British Tortricoid Moths.* Tortricidae: Olethreutinae. viii + 336 pp., 43 pls. Ray Society, London.

CLARKE, J. D. F. G., 1955. *Catalogue of the Type Specimens of Microlepidoptera in the British Museum (Natural History) described by Edward MEYRICK* **1**. 332pp. British Museum, London.

————, 1958. *Ibid.* **3**. 600 pp. British Museum, London.

DIAKONOFF, A., 1950. The type specimens of certain Oriental Eucosmidae and Carposinidae (Microlepidoptera). *Bull. Br. Mus. nat. Hist.* (Ent.) **1**: 273－300, pls. 3－8.

————, 1954. Records and descriptions of Microlepidoptera (7). *Zool. Verh. Leiden* (22): 1－58. pls. 1－3.

————, 1956a. New Guinean Microlepidoptera, V_A. *Kon. Nederl. Akad. Wetenschappen Amsterdam, Proceedings Ser. C* **59**: 520－527.

————, 1956b. Microlepidoptera from Sumba 2. *Verh. naturf. Ges. Basel* **67**: 56－61.

————, 1973. The south Asiatic Olethreutini (Lepidoptera: Tortricidae). *Zool. Monogrn Rijksmus. nat. Hist.* **1**. xx + 699 pp.

————, 1982. On a collection of some families of Microlepidoptera from Sri Lanka (Ceylon). *Zool. Verh. Leiden* (193): 1－124, 17pls.

FALKOVITSH, M. I., 1962. Use of secondary sexual characters in the classification of Palaearctic Olethreutinae (Lepidoptera, Tortricidae). *Ent. Obozr.* **41**: 878－885.

————, 1970. The new Palaearctic species of the genus *Lobesia* GN. and synonymical notes on some leaf-rollers (Lepidoptera, Tortricidae). *Vest. Zool.* (5): 62－69.

HANNEMANN, H. J., 1961. Kleinschmetterlinge oder Microlepidoptera 1. Die Wickler (s. str.) (Tortricidae). *Tierwelt Dtl.* **48**: 1－233, 22 pls.

ISSIKI, S., 1950. Eucosmidae. *In* ESAKI T. *et al., Iconographia Insectorum Japonicrum* p. 478－487. Hokuryukan, Tokyo.

————, 1957. Eucosmidae. *In* ESAKI T. *et al., Icones Heterocerorum Japonicorum in Coloribus Naturalibus* [**1**]: 53－75, pls. 8－12. Hoikusha, Osaka.

———— and A. MUTUURA, 1962. A list of the Microlepidoptera bred from coniferous plants in Japan. *Publs ent. Lab. Univ. Osaka Prefect.* **7**: 1－8.

KAWABE, A., 1972. Two new and three unrecorded species of the subfamily Olethreutinae from Japan (Lepidoptera: Tortricidae). *Tinea, Tokyo* **9**: 242－246, pls. 77－78.

————, 1980. Descriptions of fourteen new species of the micro moths from Japan (Lepidoptera: Tortricidae, Cochylidae, Carposinidae). *Ibid.* **11**: 17－31.

————, 1982. Tortricidae and Cochylidae. *In* INOUE, H. *et al., Moths of Japan* **1**: 62－158, **2**: 158－183, pls. 14－31, 227, 279－295. Kodansha, Tokyo.

KENNEL, J., 1916. Die palaearktischen Tortriciden. *Zoologica, Stuttg.* **21** (54): 397－546, pls. 17－20.

KODAMA, T., 1988. Microlepidoptera injurious to kiwi fruit. *Noyakugraph* (101): 11－14.

KOMAI. F., 1991. Microlepidoptera associated with spruce and fir in Hokkaido 3. Tortricidae, Olethreutinae. *Ringyo to Yakuzai* (115): 1－10.

KUZNETSOV, V. I., 1978. Tortricidae. *In* MEDVEDEV, G. S. (ed.), *Key to the Insects of the European USSR.* **4** (1): 193－680. Nauka Leningradskoe Otdelenie, Leningrad.

———— and A. A. STEKOLNIKOV, 1977. Functional morphology of the male genitalia and phylogenetic relationships of some tribes in the family Tortricidae (Lepidoptera) of the fauna of the Far East. *Trudy zool. Inst. Leningr.* **70**: 65－97.

NII-Electronic Library Service

The Lepidopterological Society of Japan

LIU, Y. and J. BAI, 1977. Lepidoptera, Tortricidae 1. [*Economic Insect Fauna of China*]**11**: 1－93, 24 pls.

MATSUMURA, S., 1931. *6000 illustrated Insects of Japan-Empire*. 1497pp. Tokoh-shoin Tokyo.

MEYRICK, E., 1907. Descriptions of Indian Micro-Lepidoptera 4. *J. Bombay nat. Hist. Soc.* **17**: 976－994.

OBRAZTSOV, N., 1953. Classification of Holarctic species of the genus *Lobesia* GUENÉE, with description of *Paralobesia* gen. nov. (Lepidoptera, Tortricidae). *Tijdschr. Ent.* **96**: 85－94.

OKANO, M., 1959. Olethreutidae. *In* INOUE, H. *et al., Iconographia Insectorum Japonicorum Colore naturali Edita* **1**: 259－269, pls. 174－176. Hokuryukan, Tokyo.

PARK, K. T., 1983a. Microlepidoptera of Korea. *Insecta koreana* **3**. Seoul.

————, 1983b. Tortricidae. *In* SHIN, Y. H., PARK, K. T. and S. H. NAM, *Illustrated Flora and Fauna of Korea* **27**: 592－733, 942－988, pls. 38－47.

PIERCE, F. N. and J. W. METCALFE, 1922. *The Genitalia of the Group Tortricidae of the Lepidoptera of the British Island*. F. N. Pierce, Oundle.

RAZOWSKI, J., 1989. The Genera of Tortricidae (Lepidoptera). Part II: Palaearctic Olethreutinae. *Acta zool. cracov.* **32**: 107－328.

SUZUKI, S., and F. KOMAI, 1984. Microlepidoptera feeding on conifer trees in Hokkaido. *Bull. Hokkaido For. Exp. Stn* **22**: 85－129.

SWATSCHEK, B. 1958. Die Larvalsystematik der Wickler (Tortricidae und Carposinidae). *Abh. Larvalsyst. Insekten* **3**: 1－269.

摘　　要

日本産 *Lobesia* 属（鱗翅目，ハマキガ科）の分類学的再検討と1新亜属の記載

（裵良燮・駒井古実）

Lobesia 属はハマキガ科 Tortricidae, ヒメハマキガ亜科 Olethreutinae に属し，外見が非常に類似した小型の種からなるグループで，現在まで主として全北区，東洋区，オーストラリア区から100種以上が記載されている．日本からはこれまで5種 — *botrana* ([DENIS & SCHIFFERMÜLLER]), *reliquana* HÜBNER, *aeolopa* MEYRICK, *mieae* KAWABE, *coccophaga* FALKOVITSH — が記録されている．今回，日本産 *Lobesia* 属約600個体について詳細な比較検討をおこなった結果，従来知られていた種（日本からの記録には疑問がある *botrana* を除く4種）以外に，1新記録種（*bicinctana* DUPONCHEL），3新種（*arguta* sp. nov., *virulenta* sp. nov., *yasudai* sp. nov.）を認め，これら日本産8種を2亜属に分類した．本論文では属および日本産亜属を定義し，種について詳細に記載した．

［属の特徴］

Lobesia 属は次の4つの固有新形質によって特徴づけられる．

1）前翅前縁部には縁紋（pterostigma）がある．

2）第2腹節腹板にある鱗片が密生した一対の袋状構造および後脚の tibia 基部からでる毛束の組合せからなる発香器官がある．

3）雄交尾器の pedunculus は前縁部に先端が尖った突起物をもつ．

4）雌交尾器の sterigma は第7腹節の腹板下の膜状嚢の中に存在する．

［亜属の特徴］

日本産亜属は次の固有新形質によって特徴づけられる．

Lobesia 亜属

1）雌の第7腹節腹板の後縁部は硬化した構造物（limen）をもつ．

NII-Electronic Library Service

The Lepidopterological Society of Japan

Neolobesia 亜属（新亜属）

1）前翅は chorda を欠く．

2）Cucullus の剛毛は背縁部にのみ生じる．

3）Aedeagus の背面に一対の突起を生じる．

［日本産 *Lobesia* 属］

Lobesia 亜属

1．*L. reliquana* (HÜBNER) ホソバヒメハマキ

以下の4種とよく似ているので，正確な同定のためには雌雄交尾器を検鏡する必要がある．本種の雄は後翅が白色半透明（他種は淡灰褐色）であることで他種から区別できる．分布：日本（北海道，本州，四国）；ユーラシア大陸に広く分布する．寄主植物：日本では不明．ヨーロッパでは広葉樹やキク科草本植物が記録されている．

2．*L. arguta* BAE et KOMAI（新種）　トドマツチビヒメハマキ（改称）

前種および次の3種と類似するが，黄褐色の斑紋が明瞭に現れ，基斑が二分されることにより他種から区別できる．本種の雄は類似種中で後翅が半透明でない唯一の種である．分布：日本（北海道，本州）．寄主植物：モミ属，トウヒ属，ツガ属．

3．*L. virulenta* BAE et KOMAI（新種）

次種と外部表徴では区別できない．雄交尾器の aedeagus および雌交尾器の sterigma の形状がわずかに違う．分布：日本（北海道，本州，四国）．寄主植物：カラマツ，ナシのほかエゾノネコアシアブラムシのゴールも食する．

4．*L. yasudai* BAE et KOMAI（新種）

前種と外部表徴では区別できない．分布：日本（北海道，本州）．寄主植物：ノリウツギ，ハマナス，シュウリザクラ．

5．*L. aeolopa* MEYRICK　ホソバチビヒメハマキ

前4種と類似するが，本種の前翅は他種に比べてやや暗い．ただし，この特徴は個体変異があり，より明るい個体も出現する．分布：日本（北海道，本州，九州，琉球）；南アジアに広く分布する．寄主植物：アキニレ，ビワ，ソメイヨシノ，ブドウ，チャ，カキなど．

6．*L. mieae* KAWABE　ミエヒメハマキ

黄橙色の中帯をもつことで他種から区別できる．分布：日本（本州）．寄主植物：オモト．

7．*L. bicinctana* (DUPONCHEL)（日本新記録種）

外側に向かって角をなす暗褐色の基斑と内側で淡黄土色の帯（地色）と融合する黄土色の中帯が本種の特徴である．分布：日本（北海道，本州）；ユーラシア大陸に広く分布する．寄主植物：ヨーロッパではネギ属が記録されている．

Neolobesia 亜属

8．*L. coccophaga* FALKOVITSH　スイカズラホソバヒメハマキ

L. reliquana とその近縁種と斑紋がやや類似するが，本種の頭部は暗黄褐色である．分布：日本（本州，四国，九州）韓国，沿海州．寄主植物：スイカズラ．

(Accepted March 28, 1991)

Published by the Lepidopterological Society of Japan, c/o Ogata Hospital, 2-17, Imabashi 3-chome, Chuo-ku, Osaka, 541 Japan

NII-Electronic Library Service